Syllabus

Principles of Architecture and Construction, Semester B

Course Overview

The Principles of Architecture and Construction Semester B course explains the use of computers, design concepts, and project management, as well as the safety, legal, and communication requirements in architecture and construction work. Principles of Architecture and Construction Semester B begins by describing basic computer hardware and software. In this course, you will create enhanced documents by using word processing software and explain the options for creating and managing spreadsheets. This course also covers the key concepts of urban design and its relationship with city government. Finally, you will learn about construction documents and standards.

Course Goals

This course will help you meet the following goals:

- Analyze various design principles in contemporary architectural styles and elements of architectural drawings.
- Examine the physical properties of architectural structures and the materials, tools, technologies, and equipment needed to construct them.
- Appraise various architecture programs of study and careers, as well as the role of lifelong- learning skills in career growth and resource management.
- Employ knowledge of positive work ethics, professionalism, problem-solving skills, and workplace policies in order to create an inclusive, safe, and respectful workplace.
- Analyze various computer technologies, documents, and standards used in architecture and construction management professions.
- Demonstrate professional communication skills with regards to public relations and communicating with city government officials.
- Examine the process of creating a built environment, including legal building requirements, safety laws and regulations, and jobsite injury prevention.

General Skills

To participate in this course, you should be able to do the following:

- Complete basic operations with word-processing software such as Microsoft Word or Google Docs.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of the general skills required for participation in online courses, refer to the Prerequisites section of the Plato Student Orientation document, found at the beginning of this course.

Credit Value

PLATO Course Principles of Architecture and Construction, Semester B is a 0.5-credit course.

Course Materials

- notebook
- computer with an Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you stay on schedule with your work. Note that your course teacher may modify the schedule to meet the specific needs of your class.

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Pretest. *Pretests are optional assessments, typically designed for credit recovery use. If a student shows mastery of a lesson's objective, the student may be automatically exempted from that lesson in the upcoming unit. Typically, teachers do not choose to employ exemptive pretests for first-time credit courses. Pretests are not included as a component of the student's final grade.*	4	0%
Module. *Each module in this course contains an interactive tutorial and an associated mastery test. Tutorials may include one or more Lesson Activities that constitute tasks associated with the tutorial. The module score comes from a student's score on the mastery test.*	15	20%
Discussion. *Online discussions allow for higher-order thinking about terminal objectives. An online threaded discussion mirrors the educational experience of a classroom discussion. Teachers can initiate a discussion by asking a complex, open-ended question. Students can engage in the discussion by responding both to the question and to the thoughts of others. Each unit in a course has one predefined discussion topic; teachers may add more discussion topics.*	4	20%
Unit Activity. *Unit Activities are at the end a unit and constitute one or more small tasks. Their purpose is to deepen understanding of key unit concepts and tie them together. Each Unit Activity includes a simple rubric. The teacher versions include both a rubric and modeled sample answers. Unit Activities are teacher graded.*	4	20%
Posttest. *The posttest appears at the end of the unit and mirrors the pretest in structure, content, and complexity.*	4	20%
End of Semester Test. *The end of semester test (EOS) appears at the end of the course. Students are delivered a few items from every tutorial in the course in order to assess the major course objectives.*	1	20%
Total	**32**	**100%**

**Teachers may manually adjust these weights if desired, per district grading requirements.*

Unit 1: Use of Computers

Summary

In this unit, you will explain basic hardware and software used in computers. You will also describe the ways to communicate over the Internet. In addition, you will explain how to work with documents, spreadsheets, and databases.

Day	**Activity**/*Objective*	Type
1 day: 1	**Syllabus and Plato Student Orientation** *Review the Plato Student Orientation and Course Syllabus at the beginning of this course.*	Course Orientation
4 days: 2–5	**Computer Hardware and Software** *Identify basic hardware and software requirements in business organizations.*	Lesson
5 days: 6–10	**Searching and Exchanging Information Using the Internet** *Relate various techniques and methods of searching for and exchanging information over the Internet.*	Lesson
4 days: 11–14	**Working with Documents** *Recall how to use documents using word processing software and identify the proofreading process.*	Lesson
4 days: 15–18	**Working with Spreadsheets** *List different types of spreadsheet software as well as their features.*	Lesson
4 days: 19–22	**Working with Databases** *Recognize the purpose and process of creating and using a database, including fundamental concepts and operations.*	Lesson
1 day: 23	**Thwack-A-Mole**	Game
4days: 24–27	**Unit Activity/ Threaded Discussion —Unit 1** *Practice architectural design skills using a computer and CAD; use a computer and related software to record and display data on electricity usage.*	Unit Activity
1 day: 28	**Posttest—Unit 1**	Assessment

Unit 2: Design Concepts

Summary

In this unit, you will identify the careers and concepts related to urban, sustainable, and green design. You will also explain the stages involved in creating a built environment.

Day	**Activity/***Objective*	Type
5 days: 29–33	**Urban Design and City Government** *Identify the key concepts and design principles of urban design and identify its relationship with city government.*	Lesson
4 days: 34–37	**Sustainability and Green Design** *Recall sustainable and environment-friendly techniques and technologies in construction and identify those that would make the biggest impacts in energy savings.*	Lesson
5 days: 38–42	**Creating a Build Environment** *Recall the stages and process of creating a built environment, including various building systems.*	Lesson
1 day: 43	**Space Jumble**	Game
4 days: 44–47	**Unit Activity/Threaded Discussion—Unit 2** *Identify LEED and zoning regulations followed in your city, and practice written communication skills when writing to your city's building department to research these two forms of regulations.*	Unit Activity
1 day: 48	**Posttest—Unit 2**	Assessment

Unit 3: Managing a Construction Project

Summary

In this unit, you will describe the common documents in architecture and construction. You will also explain time, task, and resource management skills required in architecture and construction work. In addition, you will explain the importance of diversity awareness and conflict resolution techniques to avoid interpersonal and workplace issues.

Day	**Activity/***Objective*	Type
4 days: 49–52	**Contract Documents** *Recall the process of bidding on a project; explain construction documents and standards.*	Lesson
4 days: 53–56	**Time, Task, and Resource Management** *List time, task, and resource management skills and explain how to organize and implement a productive plan of work.*	Lesson
4 days: 57–60	**Diversity Awareness** *Identify methods to reduce challenges when interacting with people from diverse backgrounds in a workplace.*	Lesson
4 days: 61–64	**Conflict Resolution** *Demonstrate conflict-resolution skills by negotiating diplomatic solutions to avoid interpersonal and workplace issues.*	Lesson
1 day: 65	**Para Jumble**	Game
4 days: 66–69	**Unit Activity/Threaded Discussion—Unit 3** *Practice contract writing skills that outline a project you will be undertaking.*	Unit Activity
1 day: 70	**Posttest—Unit 3**	Assessment

Unit 4: Safety and Legal Requirements and Communication

Summary

In this unit, you will identify the safety and legal requirements practiced in architecture and construction. You will also explain the communication and public relations skills required in the architecture and construction industry.

Day	**Activity**/*Objective*	Type
4 days: 71–74	**Safety Requirements and Regulations** *Recall safety requirements and regulations in architecture and construction; identify safety and health risks.*	Lesson
4 days: 75–78	**Legal Requirements** *Recognize legal requirements and building codes associated with architecture and construction projects, including improving accessibility for people with disabilities.*	Lesson
4 days: 79–82	**Communication Skills** *Recall the importance of professional communication, including the role of word choice and style, in order to maintain good public relations in the architecture and construction industry.*	Lesson
1 day: 83	**Space Jumble**	Game
4 days: 84–87	**Unit Activity/Threaded Discussion—Unit 4** *Practice interviewing skills to identify a construction company's different roles, safety procedures, documentation, and preparation plans for future staffing.*	Unit Activity
1 day: 88	**Posttest—Unit 4**	Assessment
1 day: 89	**Semester Review**	
1 day: 90	**End-of-Semester Test**	Assessment

Course Map

You will achieve course level objectives by completing each lesson's instruction, assignments, and assessments. For a detailed look at how the materials meet these objectives, review the course map for Semester B.